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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,492	03/01/2002	Robert A. Cordery	F-285	4051
919	7590	03/04/2005	EXAMINER	
PITNEY BOWES INC. 35 WATERVIEW DRIVE P.O. BOX 3000 MSC 26-22 SHELTON, CT 06484-8000			KRONENTHAL, CRAIG W	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,492

Applicant(s)

CORDERY ET AL.

Examiner

Craig W Kronenthal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 4 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 10 is objected to because of the following informalities:
 - On lines 2-3 of claim 10, "...the ratio of the second image to the perimeter of the first image..." does not clearly define a ratio. In accordance with the other ratio of claim 10, it is believed the ratio should be replaced with "...the ratio of the area of the second image to the perimeter of the first image..."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 6 indicates that the method of detecting a copy of the composite image contains a step of removing sharp corners from the second image. However, this step is not disclosed in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 5, 6, 12, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Rhoads et al. (PN 6,636,615). (hereinafter Rhoads)

Regarding Claim 1: Rhoads discloses a method for detecting a copy of a composite image (Fig. 1, 10) that includes a first image (Fig. 1, One Watermark with fine grain) and a second image (Fig. 1, One watermark with coarse grain) that has information embedded in the second image that will change in appearance when the first and second images are scanned or photocopied, comprising the steps of [The composite image is the document (10), which has two watermarks. It is well known in the art that watermarks are images carrying information.]:

- Scanning the first and second images [The document (10) containing both watermarks/images is scanned by a scanner (12) (col. 4 lines 12-13).]; and
- Detecting a change in appearance of the second image that indicates the first and second images were scanned or photocopied [The power ratio of the two watermarks changes when a document (10) is scanned or copied (col. 4 lines 45-51). Power is synonymous with intensity (col. 5 line 25), and a change in intensity is synonymous with a change in appearance.].

Regarding Claim 3: Rhoads discloses the method claimed in claim 1, wherein the first and second images are printed on a medium [The first and second images are represented by the two watermarks, which are printed on a medium or document (10) (col. 4 lines 20-21).].

Regarding Claim 5: Rhoads discloses the method claimed in claim 1, wherein portions of the area of the second image are larger than portions of the area of the first image [The first watermark (Fig. 2A) has a fine grain arid and its portions are 3x3 blocks of pixels (col. 4 lines 26-27). The second watermark (Fig. 2B) has a coarse grain arid and its portions are larger than the first watermarks, specifically 6x6 blocks of pixels (col. 4 lines 34-35).].

Regarding Claim 6: Rhoads discloses the method claimed in claim 5, wherein portions of the second image have a different shape [The watermarks could be entirely different types and therefore different shapes (col. 8 lines 24-29).].

Regarding Claim 12: Rhoads discloses the method claimed in claim 1, further including the step of: informing an observer that a copy of the composite image was detected [A table (col. 7) or algorithm is disclosed as outputting the result of determining whether

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the document (Fig. 1, 10) is an original (Fig. 1, 10A) or a copy (Fig. 1, 10B) (col. 7 lines 34-64).].

Regarding Claim 13: Rhoads discloses the method claimed in claim 1, wherein the first image will not change in appearance when the first image is scanned or photocopied [The original document (Fig. 1, 10) has two watermarks with a power ratio of 1:1 (col. 4 lines 38-39). The scanned or photocopied document (Fig. 1, 10B) has two watermarks with a power ratio of 1:10 (col. 4 lines 45-50). The power of the first watermark corresponding to the numerator of the ratio is "1" in both cases indicating it has not changed in appearance. It can also be observed from Figures 5A and 5B that watermark A has remained the same despite being copied, while watermark B has changed as a result of the copying.].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (6,636,615) in view of Rhoads (US 2001/0022848 A1).

Regarding Claim 2: Rhoads (6,636,615) discloses the method claimed in claim 1 and that the invention would be used to check the authenticity of printed indicia related to shipping (col. 9 lines 19-24). But Rhoads does not disclose the first image being a postal indicia. However, Rhoads (US 2001/0022848 A1) discloses that the security document may be a postal stamp (p. 1, [0008], lines 4-7). Therefore, it would be obvious to one of ordinary skill in the art to modify the first image in Rhoads (6,636,615) to be a postal indicia for use in a postal stamp as suggested in Rhoads (US 2001/0022848 A1). Furthermore, one of ordinary skill in the art would be motivated to make this modification to discourage the counterfeiting of stamps (Rhoads (US 2001/0022848 A1), p. 1, [0008], lines 8-10).

Regarding Claim 8: Rhoads (6,636,615) discloses the method claimed in claim 1, but does not disclose the first and second images being bar codes. However, Rhoads (US 2001/0022848 A1) discloses that watermarks may be a bar code (p. 12, [0170], lines 1-2). If watermarks in Rhoads (6,636,615) were bar codes then the bar code module size of the first bar code would be different from the bar code module size of the second bar code since the watermarks have different grains (col. 4 lines 21-24). It would be obvious to one skilled in the art of watermarking to modify Rhoads (6,636,615) to use bar codes as watermarks because as stated in Rhoads (US 2001/0022848 A1) watermark data can be put in postal stamps (p. 8, [0114], lines 1-4). Furthermore one

would be motivated to make this modification to protect the authenticity of security documents (p. 1, [0008], lines 1-8).

Regarding Claim 9: Rhoads (6,636,615) in view of Rhoads (US 2001/0022848 A1) discloses the method claimed in claim 8. Rhoads (6,636,615) further discloses the method wherein the module size of the bar code in the second image is smaller than the module size of the bar code in the first image. [The module size of the bar code in Figure 2A, represented by the 3x3 blocks of pixels, is smaller than the module size of the bar code in Figure 2B, represented by the 6x6 blocks of pixels (col. 4 lines 26-37).]

Regarding Claim 10: Rhoads (6,636,615) in view of Rhoads (US 2001/0022848 A1) discloses the method claimed in claim 9. Rhoads (6,636,615) further discloses the method wherein the ratio of the area of the second image to the perimeter of the second image is increased from the ratio of the second image to the perimeter of the first image before the image is scanned or photocopied. [This claim is inherent in the arguments applied to claim 9. If the side of the second image is "a" then its area is " a^2 " and its perimeter is "4a". If the side of the first image is "b" then its perimeter is "4b". If $b > a$ then the ratio $a^2 / 4a$ is greater than (or increased from) the ratio $a^2 / 4b$. Note that the Figures 2A and 2B show that the watermarks have different size blocks before being scanned or photocopied.]

Regarding Claim 11: Rhoads (6,636,615) in view of Rhoads (US 2001/0022848 A1) discloses the method claimed in claim 9. Rhoads (6,636,615) further discloses the method, further including the steps of: decoding information in the first and second images and determining the amount of information in the original first and second images that is different from the amount of information in the scanned or photocopied first and second images. [The document (Fig. 1, 10) is decoded to obtain the intensities or power of the two watermarks. The amount of information is determined by determining the ratio of the first watermark power to the second watermark power. The method then compares the ratio of the original two watermarks with the ratio of the received two watermarks and determines whether the document is a copy (Fig. 1, 10B) or the original (Fig. 1, 10A). If the difference between the two ratios is too great it is decided that the document has been scanned or photocopied and is therefore a copy (10B) (col. 4 lines 45-55).]

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (6,636,615).

Regarding Claim 7: The method claimed in claim 6, wherein sharp corners of the second image are removed [The examiner takes official notice that the removal of sharp corners is a common image enhancement procedure done as either part of a pre-image processing or post-image processing.].

Allowable Subject Matter

8. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- Ulvr et al. (PN 6,415,983) is cited for teaching embedding a 2D bar code on a stamp.
 - Leon (Pub. No. US 2003/0028497 A1) is cited for teaching insertion of a bar code and watermark onto a stamp for authentication.
 - Hayosh (PN 6,611,598) is cited for teaching the use of a 2D bar code for authentication.
 - Tuhro (PN 5,635,694) is cited for teaching embedding into a postal mark.
 - Herbert (PN 6,102,592) is cited for teaching the prevention of copying of postage indicia.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig W Kronenthal whose telephone number is (703) 305-8696. The examiner can normally be reached on 8:00 am - 5:00 pm / Mon. - Fri..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 306-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

03/03/05
CWK

MEHRDAD DASTOURI
PRIMARY EXAMINER

Mehrdad Dastouri